

## Chapter 4 Mitigation Strategies

### Disaster Mitigation Act of 2000

**§201.4(c)(3)(i): A Mitigation Strategy that provides the State's blueprint for reducing the losses identified in the risk assessment. This section shall include: A description of State goals to guide the selection of activities to mitigate and reduce potential losses."**

**§201.4(c)(3)(ii): A discussion of the State's pre- and post-disaster hazard management policies, programs, and capabilities to mitigate the hazards in the area, including: and evaluation of State laws, regulations, policies, and programs related to hazard mitigation as well as to development in hazard-prone areas; a discussion of State funding capabilities for hazard mitigation projects; and a general description and analysis of the effectiveness of local mitigation policies, programs, and capabilities.**

**§201.4(c)(3)(iii): An identification, evaluation, and prioritization of cost-effective, environmentally sound, and technically feasible mitigation actions and activities the State is considering and an explanation of how each activity contributes to the overall mitigation strategy. This section should be linked to local plans, where specific local actions and projects are identified.**

**§201.4 (d): Review and updates. Plan must be reviewed and revised to reflect changes in development, progress in statewide mitigation efforts, and changes in priorities and resubmitted for approval to the appropriate Regional Director every three years. The Regional review will be completed within 45 days after receipt from the State, whenever possible. We also encourage a State to review its plan in the post-disaster time frame to reflect changing priorities, but it is required.**

### 4.1 Virginia Hazard Mitigation Strategies

The Emergency Operations Plan Support Annex 3: *Standard Hazard Mitigation Plan* is structured with a traditional hierarchy that begins with a Mitigation Vision supported by four major goals. Each goal is further defined by a series of objectives. Accomplishment of objectives will depend on successful implementation of supporting strategies and projects. The Mitigation Vision presented in the *2001 Emergency Operations Plan, Support Annex 3 Mitigation* was reviewed and revised at the Second Steering Committee Meeting. The Vision that encompasses this plan and four supporting goals were adopted by the Steering Committee following the second meeting. The Vision and Goals are supported by a series of objectives that were refined and finalized at the Third Steering Committee Meeting. Strategies and projects were developed during the second and third steering committee meetings but have largely been developed by participating agencies and organizations that have entered project data sheets onto the *Commonwealth of Virginia Hazard Mitigation Plan* website. Strategies and projects support accomplishment of objectives. The term "strategy" is used specifically to describe efforts such as legislative change or an educational campaign whereas "projects" generally describe structural mitigation work.



## 4.2 Vision, Goals, Objectives and Strategies & Projects

### **VISION:**

***It is one of the Commonwealth's visions to reduce the impacts of hazards on human, economic and natural resources throughout the state.***

**Table 4-1 Mitigation Goals and Objectives**

<b>Goal 1: Structural Mitigation Projects</b>	
<i>Identify and implement physical projects that will directly reduce impacts from hazards</i>	<ol style="list-style-type: none"> <li>1. Continue implementation of warning and detection systems to notify the Commonwealth of impending hazards.</li> <li>2. Elevate, retrofit and relocate existing structures and facilities in vulnerable locations.</li> <li>3. Construct hazard-resistant buildings and infrastructure.</li> <li>4. Modify sites near structures to reduce exposure to hazards; better select sites for new state facilities.</li> <li>5. Require emergency utility systems and redundant communication systems for functionally critical facilities.</li> <li>6. Implement "in place" contracts to provide mitigative measures for functionally critical facilities.</li> <li>7. Maintain Continuity of Operations of critical facilities through reduction of hazard impacts on communication networks and information infrastructure.</li> </ol>
<b>Goal 2: Policy, Planning and Funding</b>	
<i>Incorporate mitigation concepts and objectives into existing and future policies, plans, regulations and laws in the Commonwealth</i>	<ol style="list-style-type: none"> <li>1. Identify current policies, plans, regulations and laws that require or should require mitigation intervention.</li> <li>2. Add hazard assessment to new, remodeled and relocated state facilities.</li> <li>3. Incorporate mitigation planning concepts into Continuity of Operations Plans (COOP) for state agencies.</li> <li>4. Standardize the critical facility definition across the state.</li> <li>5. Incorporate mitigation planning concepts into state legislation and zoning.</li> <li>6. Promote coordination between federal, state and local organizations.</li> <li>7. Perform a hazard mitigation analysis on all current and potential Commonwealth leased properties.</li> <li>8. Identify appropriate funding sources.</li> </ol>
<b>Goal 3: Information and Data Development</b>	
<i>Build capacity with information and data development to refine hazard identification and assessment, mitigation targeting and funding identification</i>	<ol style="list-style-type: none"> <li>1. Identify data needs and sources.</li> <li>2. Identify data analysis needs.</li> <li>3. Develop strategies to convert data to information for decision-making.</li> <li>4. Identify mitigation analysis strategies.</li> <li>5. Gather information on mitigation effectiveness.</li> <li>6. Develop a common system for information storage.</li> <li>7. Develop data distribution standards for the mitigation database to address data security, sharing and Freedom of Information Act (FOIA) issues.</li> </ol>
<b>Goal 4: Education and Outreach Activities</b>	
<i>Through education and training, increase awareness of hazards and potential mitigation strategies.</i>	<ol style="list-style-type: none"> <li>1. Evaluate impacts of on-going educational efforts to determine unmet needs.</li> <li>2. Identify target audiences in the general public and state agencies for hazards awareness education and training.</li> <li>3. Identify and develop resources to provide training and education to targeted audiences.</li> <li>4. Provide hazard awareness, preparedness and mitigation information through various communication channels.</li> <li>5. Create connection between "Secure Virginia" efforts with existing agency functions.</li> </ol>



### 4.2.1. Strategy & Project Prioritization

The strategies and projects were developed within the context of the vulnerability assessment conducted for more than 10,000 Commonwealth of Virginia facilities. Projects and strategies were developed during two Steering Committee meetings where participants were sub-divided into four goal-based subcommittees. The University Virginia Institute for Environmental Negotiation provided professional facilitation by four facilitators experienced in natural resources management, strategic planning and consensus development. Base-line criteria for projects were determined before project and strategy ideas were solicited. The criteria defining projects included environmentally sound projects that are technically feasible. Cost-effectiveness was emphasized during project solicitation and was also a ranking criterion for some of the goals. These have been prioritized through a points-based ranking that was assigned by Steering Committee members who chose to rank projects using a web-based ranking system. Consensus was mathematical based on the average score assigned through ranking to each strategy or project. The strategies and projects are now characterized as having priorities of:

- Critical
- High
- Medium
- Low

Ranking was conducted through the website by assigning points (0 -low, 1 -medium, or 2 -high) to each strategy/project based on five criteria specific to each of the four goals. Table 4-2 describes the ranking criteria used for each goal set to prioritize strategies and projects. Ranking criteria, established by the steering committee, included measures that the committee established as cost-effective, environmentally sound and technically feasible. Once the ranking was completed, strategy and project data entry resumed. New strategies and projects could not be ranked in time for prioritization in the current plan, but any additional projects and strategies submitted after the initial strategy and project set were ranked are included in the complete listing within Appendix H.

**Table 4-2 Project Ranking Criteria**

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#### **Goal 1: Structural Mitigation Projects**

*Identify and implement physical projects that will directly reduce impacts from hazards*

1. Maintenance of critical communication, transportation or supply chain management operations. Project protects the Commonwealth's ability to maintain continuity of operations and emergency management functions during a disaster.
2. Beneficial impacts for multiple agencies/organizations. Project benefits a number of groups, communities, or state agencies covering a large geographic area.
3. Feasibility. Project is feasible in terms of political support, timeliness, ability to be completed in a timely fashion, availability of expertise and technical support, and ease of implementation.
4. Cost and Funding. Project is feasible in terms of cost effectiveness and available funding.
5. Multi-Hazard mitigation. Project mitigates damage to critical resources from one or more hazards.

#### **Goal 2: Policy, Planning and Funding**

*Incorporate mitigation concepts and objectives into existing and future policies, plans, regulations and laws in*

1. Human health and safety. Strategy protects human health, enhances public safety, protects vulnerable populations, or mitigates significant potential risk to health and safety.
2. Preparedness. Strategy enhances the Commonwealth's ability to plan for and be prepared for a disaster.
3. Economic recovery. Strategy will reduce economic risk and promote rapid economic recovery.



*the Commonwealth*

4. Multi-Hazard mitigation. Strategy mitigates damage to critical resources from one or more hazards.
5. Health care and shelter. Strategy addresses need for public and private health care and shelters.

**Goal 3: Information and Data Development**

*Build capacity with information and data development to refine hazard identification and assessment, mitigation targeting and funding identification*

1. Human health, safety or economic stability. Project uses data development to protect human health, enhance public safety, provide economic stability, protect vulnerable populations, or mitigate significant damage potential.
2. Multi Hazard Mitigation. Project mitigates damage to critical resources from one or more hazards.
3. Beneficial impacts for multiple agencies/organizations. Project benefits a number of groups, communities, or state agencies covering a large geographic area.
4. Feasibility. Project is feasible in terms of political support, timeliness, ability to be completed in a timely fashion, availability of expertise and technical support, and ease of implementation.
5. Information quality and security. Project provides ability for information to be maintained, fits into a larger information warehouse structure, is appropriately protected and secure, and has integrity/validity/high quality information.

**Goal 4: Education and Outreach Activities**

*Through education and training, increase awareness of hazards and potential mitigation strategies.*

1. Number of people and property affected. Strategies for education efforts are directed to where a significant number of people and property will be affected by a hazard occurrence.
2. Beneficial impacts for multiple agencies/organizations. Strategy benefits a number of groups, communities, or state agencies covering a large geographic area with hazard planning responsibilities.
3. Multi Hazard Mitigation. Strategies for educational efforts are tailored to regions with a high likelihood of a particular hazard occurrence.
4. Transferability and adaptability. Strategies for educational efforts will be carried out in a timely and relevant manner, and in the appropriate media format.
5. Simplicity and consistency. Strategies for educational message are simple and straightforward, with a consistent message.

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## 4.3 State Capability Assessment

A comprehensive capability assessment includes an examination of administrative, political and financial support for the proposed strategies and projects. It will be impossible to fund all of the strategies and projects entered into the Mitigation Database by the Steering Committee members throughout the planning process (through July 1, 2004). In some instances, individual strategy or project data entry sheets, which can be viewed on-line at [www.cgis.vt.edu](http://www.cgis.vt.edu), identified potential funding sources. A partial listing of traditional mitigation and conservation programs available to fund some types of mitigation efforts follows. This is not a complete listing but is intended to initiate discussion of funding. It should be recognized that since the plan focuses on mitigation of state facilities, funding may be available through capital improvement budgets that each agency submits as part of the biennial budgeting process tied to the legislature.

A grants database that is web-based has been developed as a repository for grant information. The database is operational and provides a resource for funding availability for mitigation strategies and projects. It is maintained by the Finance Section of the Department of Emergency Management. This is available at the Virginia Department of Emergency Management website <http://www.vdem.state.va.us/library/grants>.

The tables that follow use the following phrases to describe the program's support or relevance to mitigation. It must be noted that some of the federal programs have not been used in Virginia due to timing, funding or appropriateness. The programs are listed however, as resources that have potential use in the state's mitigation programs. As



implementation of the plan begins, all relevant programs will be explored as potential funding sources or technical support resources to assist successful funding and implementation of projects and strategies ranked “critical” and “high.”

**Effectiveness Regarding Loss Reduction:**

*Support* - programs, policies, funding or other assistance that helps implement mitigation.

*Facilitate* - programs, policies or technical assistance that assists implementation of mitigation measures.

*Hinder* – programs, policies or other deficiencies that compromise or block full implementation of mitigation measures

### 4.3.1 Pre-disaster Mitigation Programs

Mitigation programs reduce the vulnerability of citizens, property and natural resources to the destructive forces of natural events and human actions. Temporary measures are often implemented in emergency situations during response. Permanent measures use structural and non-structural approaches to reduce hazards.

The programs described in the following tables were created by Congress and the Commonwealth to address specific natural hazards. *When adequately staffed and funded*, these programs are comprehensive and extremely effective in reducing the effects of natural hazards. However, during the past decade of state and federal budget challenges, full funding and staffing of programs has been rare. The result is inadequate application of mitigation programs, in particular those addressing stream and riverbank restoration, channel maintenance and stormwater management.

**Table 4-3 Pre-Disaster Mitigation Programs Capacity Assessment**

Agency	Programs, Plans, Policies, Regulations, Funding and Practices	Effect on Loss Reduction		Funding	Description
		Support	Facilitate		
US Army Corps of Engineers	Flood Control Projects	√		√	Design and construction of local flood control projects not specifically authorized by Congress State, political subdivisions and other local agencies established within state law with full authority and ability to undertake required legal and financial responsibilities.
	Riverbank Protection	√	√	√	Design & construction of stream and river bank protection projects to safeguard highways, highway bridges, essential public works, churches, hospitals, schools and other non-profit public critical facilities endangered by flood-caused erosion. State, political subdivisions and other local agencies established within state law with full authority and ability to undertake required legal and financial responsibilities.
	Flood Control Clearing	√	√	√	Design and construction of snagging and clearing projects for navigable waters and their tributaries to reduce potential flood damage State, political subdivisions and other local agencies established within state law with full authority and ability to undertake required legal and financial responsibilities.



Agency	Programs, Plans, Policies, Regulations, Funding and Practices	Effect on Loss Reduction		Funding	Description
		Support	Facilitate		
U.S. Department of Agriculture	Watershed Protection Loans	√	√	√	Loans to assist local sponsors provide the local share of the cost of watershed improvements for flood prevention, irrigation, drainage, water quality management, sediment control, fish and wildlife management, public water supplies and water storage. Sponsoring local organizations such as soil and water conservation districts with authority under state law to obtain, give security for and raise revenues to repay loans.
	Emergency Watershed Protection	√	√		Technical services to determine eligibility and to plan needed measures. Financial assistance to construct approved measures. Any state agency, county (or group of counties), municipality, town, soil and water conservation district, flood prevention or control district or any other non-profit agency with authority under state law to carry out, maintain and operate watershed improvement works.
	Resource Conservation & Development	√	√	√	Grants and technical assistance to aid public agencies in implementing long-range resource conservation and development programs, including flood control projects. Public agencies and non-profit organizations having legal authority to plan, install, operate and maintain community projects benefiting the public.
	Forest Land Flood Prevention	√	√		Technical assistance in planning and application of measures to protect public health and safety, reduce flood hazards and control sedimentation from forest and related lands when existing local, state and federal programs do not provide adequate facilities and funds for immediate protective action. Also provides assistance in preparing requests for Section 216 funds for emergency treatment of watersheds impaired by fire, flood, earthquake or other natural disasters. State and local governments
U.S. Army Corps of Engineers	Floodplain Management	√	√		Technical assistance in identification of flood-prone areas, potential losses and the flood hazard of proposed building sites; guidance in land use management to prevent flood damage. Funding limitations set by District Office. State, political subdivisions and other public organizations.
FEMA	National Flood Insurance Program (NFIP):	√	√	√	Insurance at a reasonable rate is provided to properties within communities participating in the National Flood Insurance Program. In Virginia, 270 cities, counties and towns participated in the NFIP as of July 1, 2004. Property owners in communities participating in the National Flood Insurance Program.



Agency	Programs, Plans, Policies, Regulations, Funding and Practices	Effect on Loss Reduction		Funding	Description
		Support	Facilitate		
	Flood Mitigation Assistance (FMA) Pre-Disaster Mitigation (PDM) Repetitive Flood Claims (RFC) Severe Repetitive Loss (SRL)	√	√	√	FMA, PDM, RFC and SRL may be used to enhance State mitigation planning (FMA, PDM), and implement structural flood mitigation programs to directly assist communities to reduce flood losses (FMA, PDM, RFC, SRL). State or communities can receive financial and technical support for flood mitigation planning and implementation of flood mitigation projects. FMA, RFC and SRL must be used for repetitive loss properties that are covered through the NFIP.
	Community Assistance Program – State Support Services Element (CAP-SSSE)	√	√	√	Identify, prevent, resolve floodplain management issues and reduce flood hazards Communities participating in the National Flood Insurance Program are supported by the state NFIP coordinator's office.
U.S. Department of Commerce	Fire Accident Analysis	√	√		Detailed on-site studies of uncontrolled fires or the remains of fires by teams of experienced fire investigators, scientists and engineers to determine the causes, character of and ways of avoiding serious fire accidents. Elected or appointed state and local officials concerned with fire disasters and authorized to request such assistance.

### 4.3.2 Disaster Response, Recovery and Community Preparedness

This section features programs that can improve state and local disaster response capabilities through planning, training, personnel, information and equipment assistance. The programs are designed to address specific areas to support preparedness for natural disasters as well as adequate emergency response. The programs are extremely effective when adequately staffed and funded but budget challenges continue on the state and federal level. In addition, many programs require a 25% to 50% local match. Local governments have been equally challenged during the past decade, lack of required local match has impeded successful use of some programs to provide hazard mitigation.

**Table 4-4 Disaster Mitigation Programs Capacity Assessment**

Agency	Programs, Plans, Policies, Regulations, Funding and Practices	Effect on Loss Reduction		Funding	Description
		Support	Facilitate		

Agency	Programs, Plans, Policies, Regulations, Funding and Practices	Effect on Loss Reduction		Funding	Description
		Support	Facilitate		
U.S. Department of Housing and Urban Development	Comprehensive Planning Assistance	✓	✓		Grants to strengthen planning and decision-making capabilities of chief executives of state, regional and local agencies to promote more effective use of natural, economic and physical resources. Disaster mitigation and recovery planning are eligible activities. For state agencies designated by the Governor; counties, cities, regional and local planning agencies, local development districts, economic development districts and localities that suffered a major disaster.
NOAA National Weather Service	Forecasts and Warnings	✓	✓	✓	Public forecasts and warnings of hazardous weather phenomena and floods, and training programs on disaster safety rules. Available to agencies and the general public.
FEMA	National Dam Safety Program (NDSP):	✓	✓	✓	Grants to reduce the risks to life and property from dam failure, through the establishment and maintenance of an effective dam safety program. States with new and existing impoundment structures.
	Disaster Preparedness Improvement Grant (DPIG):	✓	✓	✓	Grants to encourage the maintenance and improvement of disaster preparedness plans and activities. State and local governments.
	State and Local Assistance (SLA):	✓		✓	Funding to maintain state and local governments plans, facilities, equipments, training and exercising. For state and local emergency services organizations.
	Hazard Mitigation Grant Program (HMGP)	✓	✓	✓	Grants to state and local governments to support hazard mitigation projects per the disaster-specific Mitigation Strategy state priorities. Projects included incentive projects at up to 5% of the total HMGP allocation, planning projects at up to 7% of the allocation and structural projects that are cost-beneficial at >88% of the allocation.
FEMA, EPA	Superfund Amendment and Reauthorization Act (SARA), Title III	✓	✓		Support programs that are designed to improve emergency planning, preparedness, mitigation, response and recovery capabilities with special emphasis on emergencies associated with hazardous materials. For state and local governments and university-sponsored programs.
USDOT	Hazardous Materials Emergency Preparedness (HMEP) Grant Program			✓	Planning and training grants to help local governments carry out Emergency Planning and Community Right-to-Know activities (SARA Title III) throughout the state. HMEP Planning Grants: Eligible LEPCs Used by VDEM to provide HAZMAT First Responder Training to public sector firefighters, emergency medical and law enforcement personnel. Other public sector personnel with HAZMAT response requirements are also eligible for the training.

### 4.3.3 Emergency Services

Programs described within this section provide special assistance to state and local authorities once an emergency or disaster has occurred. These programs are designed





to supplement state and local efforts to protect the public from the effects of an emergency and identify those killed in a disaster. These programs, while not often needed or used, are considered adequate to provide specific assistance in response to natural or, in some cases, human-caused hazards.

**Table 4-5 Emergency Response & Disaster Programs Capacity Assessment.**

Agency	Programs, Plans, Policies, Regulations, Funding and Practices	Effect on Loss Reduction		Funding	Description
		Support	Facilitate		
U.S. Department of Health and Human Services	Contaminated Food and Drugs	√	√	√	Through coordinated planning, advice, technical information, assistance and expertise can be provided to establish public health controls and to protect citizens from contaminated and unsafe food and drugs. Assists state and local agencies through the Department of Agriculture and Consumer Services and the Department of Health.
U.S. Department of Energy	Radiological Emergency Assistance		√	√	Provision of specialized services, advisory services, counseling and dissemination of technical information to assist in responding to incidents involving loss of control of radioactive materials and supporting efforts to protect public health and safety. For any person or organization with knowledge of an incident believed to involve ionizing radiation or radioactive material hazardous to health and safety.
U.S. Department of Health and Human Services, Public Health Service	Vector Control			√	Advice and technical assistance to prevent the spread of communicable diseases by disease-carrying animals or insects in the aftermath of a disaster. State and local public health authorities coordinated by the Virginia Department of Health.
Federal Bureau of Investigation	Victim Identification	√	√	√	Fingerprint identification of disaster victims. For any authorized state or local law enforcement agency.
U.S. Army Corps of Engineers	Floodplain Management	√	√	√	Technical assistance in identification of flood-prone areas, potential losses and the flood hazard of proposed building sites; guidance in land use management to prevent flood damage. Funding limitations set by District Office. State, political subdivisions and other public organizations.
FEMA	National Flood Insurance Program	√	√	√	Insurance at a reasonable rate is provided to properties within member National Flood Insurance Program communities. 270 cities, counties and towns participated in the NFIP as of July 1, 2004. Property owners in participating communities. Provides up to \$30,000 to substantially damaged properties within the Special Flood Hazard Area (SFHA) to mitigate property to meet current NFIP and building code requirements.

#### 4.3.4 Federally Funded Assistance under a Presidential Declaration

During the period between Stafford Act adoption (October, 2000) and FEMA approval of this plan, nine federal declared disasters occurred in the Commonwealth. The Stafford Act revision impacted several key disaster assistance programs. Funds available through the FEMA Individual and Family Grant Program have been reduced. HMGP, in



the Commonwealth, is 20% of the total costs of eligible federal disaster assistance, for any disaster occurring after the March 14, 2007 approval of the Enhanced plan. This assistance is available to reduce residential, commercial and property damage from flooding through structural mitigation or removal of properties from the regulated floodplain. Again, the programs are adequate as designed, but monetary demand for assistance will likely never be met to completely address impacts of disasters on families, businesses and local governments.

**Table 4-6 Post-Disaster Mitigation Programs Capacity Assessment**

Agency	Programs, Plans, Policies, Regulations, Funding and Practices	Effect on Loss Reduction		Funding	Description
		Support	Facilitate		
U.S.D.A. Farm Service Agency (FSA)	Drought Assistance	√	√	√	Provide assessments of drought damages. Coordinate requests for drought related Presidential Declaration of Drought Emergency. Recommend federal drought assistance declaration to the Governor through Department of Emergency Management. Implement federal drought assistance programs. Administer drought-related relief in coordination with the Virginia Department of Agriculture and Consumer Services. The following agencies may also assist in drought emergencies with a variety of loans, grants and programs for material and personal support: USDA US Department of Commerce Internal Revenue Service Small Business Administration FEMA US Department of Interior US Department of Labor US Army Corps of Engineers General Services Administration US Department of Interi
US Department of Agriculture	Emergency Food Stamp Program		√	√	Provides emergency food stamps to disaster victims Coordinated with state social services and the Virginia Department of Agriculture and Consumer Services

Agency	Programs, Plans, Policies, Regulations, Funding and Practices	Effect on Loss Reduction		Funding	Description
		Support	Facilitate		
FEMA	Disaster Housing	√	√	√	Residents within Presidentially declared areas are eligible for temporary housing assistance: The FEMA Administrator or their designee determines that other circumstances necessitate temporary housing assistance. <b>Home Repair Program:</b> Home repairs may be provided to those eligible applicants: Who are owner-occupants of the primary residence to be made habitable Whose property can be made habitable by repairs to the essential living area within 30 days following feasibility determination. The FEMA Region III Director may extend this period.
Small Business Administration	Emergency Loans	√	√	√	The SBA offers three types of loans: <b>Home Disaster Loans</b> for homeowners and tenants to repair or replace disaster damages to real estate and/or personal property. Tenants are eligible for personal property losses only. <b>Business Physical Disaster Loans</b> are for businesses to repair or replace disaster damages to property owned by the business. These losses could be to real estate, machinery and equipment, leasehold improvements, inventory and supplies. Businesses of any size are eligible to apply. <b>Economic Injury Disaster Loans</b> are working capital loans for small businesses and small agricultural cooperatives to assist them through the disaster recovery period. These loans are available to applicants without credit available elsewhere.



Agency	Programs, Plans, Policies, Regulations, Funding and Practices	Effect on Loss Reduction		Funding	Description
		Support	Facilitate		
Department of Housing and Urban Development	Housing Grants and Mortgage Insurance:	√	√	√	<p><b>Community Development Block Grants</b> – grants to entitlement communities. Preferred use of funding is for long-term needs but may be used for emergency response activities.</p> <p><b>Multi-family home mortgage insurance</b> – Guaranteed/insured loans to finance the acquisition of proposed, under construction or existing single-family units. Homeowners are permitted to make a low down payment.</p> <p>For any person able to meet the cash investment, the mortgage payments and credit requirements.</p> <p><b>Special Mortgage Insurance for Low and Moderate Income Families:</b> Mortgage insurance for low and moderate-income families. The program can be used to finance rehabilitation of sub-standard properties. Anyone may apply; displaced households qualify for special terms.</p> <p><b>Co-insurance:</b> Joint mortgage insurance by the federal government and private lenders to facilitate homeownership financing Everyone eligible for mortgage insurance under the full insurance programs may apply for co-insured loans to lenders approved by HUD as co-insurers. The co-insuring lender (any mortgage approved by FSA), based upon the characteristics of the property and the credit qualifications of the borrower, determines whether to make the loan.</p> <p><b>Manufactured Home Loan Insurance to Finance Purchase of Manufactured Homes:</b> To make reasonable financing of manufactured home purchases. Provided private lending institutions with federal insurance when they make loans for the purchase of manufactured homes to be used as primary residences. All families are eligible to apply.</p> <p><b>Major Home Improvements Loan Insurance:</b> Federal insurance of loans to help families repair or improve existing residential structures outside urban renewal areas. The program provides for long-term insured mortgage financing of major improvements or alterations to structures containing up to four family units. For any owner of the property to be improved or the lessee under a 99-year renewable lease or a lease having an expiration date at least ten years beyond the maturity date of the mortgage.</p> <p><b>Home Improvement Loan Insurance:</b> For tenants whose leases are at least six months.</p>
US Rural Development	Rural Housing Service (RHS) Homeownership Loans	√	√	√	<p>Loans for the purchase, construction, rehabilitation or relocation of a dwelling and related facilities for low or moderate-income persons in rural areas. RHS can help subsidize monthly mortgage payments, limiting these costs to no more than 30 percent of the adjusted monthly income of the applicant.</p>



Agency	Programs, Plans, Policies, Regulations, Funding and Practices	Effect on Loss Reduction		Funding	Description
		Support	Facilitate		
Rural Housing Service (RHS)	Very Low Income Housing Repair Loans and Grants: USDA Rural Development	√	√	√	Home improvement and repair loans and grants enable very-low and low-income rural homeowners to remove health and safety hazards from their homes and to make homes accessible for people with disabilities. Grants are available for people 62 years old and older who cannot afford to repay the part of the assistance received as a loan. An applicant must own and occupy a home in a rural area, be without sufficient income to qualify for a Section 502 loan, have sufficient income to repay the loan, and be a citizen of the U.S. or reside in the U.S. after having been legally admitted for permanent residence.
FEMA	Forest Fire Suppression			√	Federal assistance under Section 420 of the Act is provided in accordance with continuing Federal-State agreement for Fire Suppression (the Agreement) signed by the Governor and Regional Director. The Agreement contains the necessary terms and conditions consistent with the provisions of applicable laws, Executive orders, and regulations, as the Associate Director may require and specifies the type and extent of Federal Assistance.
U.S. Army Corps of Engineers	Drought Assistance			√	Coordinate the development of drought plans and procedures for lakes and dams within the Commonwealth under the jurisdiction of the Corps of Engineers. Provide information and reports as needed. Coordinate USACOE drought related activities. Provide water from USACOE reservoirs and dams, as available during emergencies.
U.S. Department of Energy	Disaster-related Power Outage			√	Implements emergency related functions under the Federal Response Plan.
	Emergency Health Assistance			√	Federal agencies including, but not limited to, the U.S. Public Health Service, provide emergency health care assistance as required. The Virginia Department of Health requests this assistance as needed.
FEMA	Individual and Family Grant Program (IFGP)	√	√	√	Federal law authorizes grants to disaster victims with disaster related expenses and needs that cannot be met through other available governmental disaster assistance programs. The Federal share of a grant to an individual family under this program shall be equal to 75% of the actual cost of meeting such an expense or need and shall be made only on condition that the remaining 25% of such costs is paid to the individual or family from funds made available by the State. No individual or family shall receive any grant or grants under this program aggregating more than a maximum amount established by Federal regulation with respect to any one major disaster. The Commonwealth: Maintains an Individual and Family Grant Program Administrative Plan Coordinates administration of the Individual and Family Grant Program through VDEM supervised by the State Coordinating Officer.



Agency	Programs, Plans, Policies, Regulations, Funding and Practices	Effect on Loss Reduction		Funding	Description
		Support	Facilitate		
FEMA	Public Assistance	√	√	√	Preliminary Damage Assessment (PDA) This process is used to determine the magnitude and impact of a disaster. A FEMA/Commonwealth team will visit each affected jurisdiction to view damage first-hand, assess the scope of the damages and estimate repair costs. PDA data forms are completed that provide additional information to streamline the process. Immediate Needs Funding (INF) These funds are earmarked for the most urgent work in the initial period following the disaster event. If damage sites have been surveyed during the PDA, eligible applicants may apply for INF within days of the disaster. INF may be up to 50% of the Federal share of the PDA estimate for emergency work (Categories A and B). Any up-front funds received by an applicant will be offset later against actual emergency work projects as they are received. The Commonwealth provides a 20% match to the federal funds through sum-sufficient monies. Subsequent to a disaster declaration by the President, FEMA provides assistance to state agencies, local governments and some private non-profit organizations for the repair and restoration of damaged public facilities. A grant is made to the state, which then authorizes sub-grants to eligible applicants. Funding is then provided on a cost share basis with percentages established in the FEMA-State Agreement, but requiring a federal share of no less than 75%. The purpose of this Public Assistance Administrative Plan Annex is to identify the roles and responsibilities of the State in administering the Public Assistance program and to outline staffing requirements and the policies and procedures to be used.
FEMA	Community Disaster Loans	√	√	√	Disaster-related expenses during the year of occurrence and the three succeeding fiscal years.
Office of Domestic Preparedness	State Homeland Security Grant Program	√	√	√	Provides financial assistance to states and territories to prepare for terrorist attacks involving weapons of mass destruction (WMD). Grants are administered through the Virginia Department of Emergency Management.
US Department of Homeland Security	High Threat Urban Area Grant Program	√	√	√	A discretionary grant program that provides funding to metropolitan areas, including counties and mutual aid partners, to prepare for, prevent and respond to terrorist incidents.
US Department of Homeland Security	Emergency Management Performance Grants	√	√	√	The Emergency Management Grant assists in the development, maintenance and improvement of state and local emergency management capabilities. These also include an Urban Search and Rescue and Interoperable Communications Grant.
FEMA	Community Emergency Response Teams	√	√	√	Provides grant funding to volunteer organizations that make local communities safe and prepare to respond to any emergency situation. CERT trains people to respond to communities in their own local communities.





Agency	Programs, Plans, Policies, Regulations, Funding and Practices	Effect on Loss Reduction		Funding	Description
		Support	Facilitate		
US Department of Agriculture	Disaster Assistance	√	√	√	Emergency Conservation program shares with agricultural producers the cost of rehabilitating eligible farmlands damaged by natural disaster. . Farm Service Agency provides emergency loans to assist producers recover from production and physical losses due to drought, flooding, other natural disasters or quarantine. Natural Resources Conservation Service's Emergency Watershed Protection Program (EWP) provides emergency measures, including purchase of floodplain easements for runoff retardation and soil erosion prevention to safeguard lives and property from floods, drought, and the products of erosion on the watershed. Food and Nutrition Service's Food Distribution division has the primary responsibility of supplying food to disaster relief organizations.
Virginia Department of Emergency Management	<i>The Emergency Operations Plan</i>	√	√		Directs emergency operations in response to any large-scale disaster impacting the Commonwealth. It assigns duties and responsibilities to agencies and support organizations for disaster preparedness, response, recovery and mitigation. Funding is achieved through appropriations in the biennial budget development process orchestrated by the Virginia General Assembly, and is supplemented in response to disaster declarations through sum-sufficient provisions that can provide state match to federal funding for individual assistance, public assistance and mitigation programs
VDEM	Disaster Recovery Programs	√	√	√	The Virginia Department of Emergency Management (VDEM) is established as the agency responsible for the management and administration of disaster relief for the Commonwealth. The Governor appoints its director, the State Coordinator for Emergency Services. During a Presidentially declared major disaster, the Governor's Authorized Representative (GAR) is designated by the Governor as the official responsible for administration of the disaster recovery effort, to include Human Services, Public Assistance and Mitigation. The Governor's Authorized Representative serves as the State Coordinating Officer (SCO) for the disaster. The following efforts are coordinated by the SCO and implemented by VDEM staff and reservists, cooperating state agencies and organizations
VDEM	Commonwealth Public Assistance Program	√	√	√	When the threshold of damage to public infrastructure is not reached to qualify for FEMA Public Assistance, the Commonwealth Emergency Relief for Localities program can provide reimbursement to local governments. This program can be used for localized major disasters or emergencies that do not result in sufficient total damages to warrant a Presidential disaster declaration. Cities, counties and towns are eligible to reimbursement of costs incurred; State agencies are not eligible. There are thresholds of costs incurred per capita, insurance must be maintained and each locality must certify that they have not other means to cover disaster-related costs.



Agency	Programs, Plans, Policies, Regulations, Funding and Practices	Effect on Loss Reduction		Funding	Description
		Support	Facilitate		
American Red Cross, Salvation Army, Virginia Volunteer Organizations Active in Disaster (VOAD)	Collection and Distribution of Donated goods		√	√	Establish and manage centers for receipts and distribution of donated goods such as food, clothing, furniture, medical supplies, building materials, cleaning supplies, bedding, utensils and tools. This is usually organized with a designated distribution center.
DMHMRSA, Department of Social Services, DCJS; Red Cross, Salvation Army, VOAD	Counseling		√	√	Crisis intervention counseling designed to assist disasters victims and responders in coping with their situation to avoid serious psychological impairment.
American Red Cross, Salvation Army, Department of Agriculture and Consumer Services, VOAD, food banks, Meals-on-Wheels	Food			√	Food can be provided to disaster victims and workers in several ways: Direct provision of foodstuffs donated by individuals and groups to disaster victims through distribution centers as described above. Direct grants for food purchase or food stamp allotments (through section 409) provided to disaster victims (described earlier in the Federal Assistance section). Meals provided at feeding centers or from mobile distribution canteens. Through section 410, provision of food stocks for emergency mass feeding or distribution to an area suffering a major disaster or emergency.
VOAD, Virginia Guard, Americorps, Others	Personnel	√	√	√	Provision of personnel to supplement the labor necessary to respond to emergency disaster events, especially for clean-up and damaged home repair.
Department of Health, VDEM, State Police, Virginia Guard, American Red Cross, Medical Examiner's Office,	Medical Assistance			√	Professional medical aid in the treatment of disaster victims, prevention or control of disease and handling and identification of persons killed during the event.
VOAD, Department of Health, AmeriCorps, NGOs	Repair of Homes	√	√	√	Aid to homeowners to repair their homes in the absence of or to supplement FEMA's Minimal Repair Program. The ability of the listed agencies to provide assistance may vary for each event and is tied to the income level and demonstrated need of each victim.



Agency	Programs, Plans, Policies, Regulations, Funding and Practices	Effect on Loss Reduction		Funding	Description
		Support	Facilitate		
Local governments, Virginia National Guard, American Red Cross, Salvation Army, VOAD.	Shelter	√	√	√	Establishment of shelters to protect the lives and health of persons forced to evacuate their homes due to an emergency or disaster occurs on a local, as needed basis. Shelters are short-term facilities (a few days to one week); families are returned to their homes or are placed in temporary housing locations as quickly as possible. Shelter locations are pre-designated in local Emergency Operations Plans.
Department of Forestry	Wildfire Prevention & Suppression	√	√	√	The Department provides training & equipment to local fire departments that fight brush and forest fires. A network of dry hydrants throughout the state to supplement water sources such as rivers, reservoirs, lakes and ponds. An aggressive woodland homes prevention program is also managed.
Department of Housing and Community Development	Statewide Building Code which includes International Building Code, 2003	√	√		<p>Through the 2000 International Building Code, adopted by the state and local governments, along with the provisions of local floodplain management ordinances, buildings that are substantially damaged, i.e. repair costs are equal to or exceed 50% of the current appraised value of the structure, must be re-constructed or repaired to be compliant to current code requirements. The state floodplain management program, in partnership with the Department of Emergency Management and FEMA, has increased visibility of NFIP and building code requirements following disasters through aggressive contacts and educational programs directed to building officials, the insurance industry and contractors. While the code provisions and program requirements are adequate, future mitigation plans should address strengthening of educational efforts to ensure that every opportunity is used to strengthen structures through the substantial damage / substantial improvement element of the building code and NFIP.</p> <p>The continued weakness of the program is the International Building Code's reliance of manufacturer's installation guidelines to ensure proper installation of manufactured homes in regulated floodplains or velocity zones. In addition, protective measures in areas with high winds rely on manufacturer's manuals, not state law or the 2000 International Building Code.</p>

Following Hurricane Isabel, Governor Mark Warner appointed a task force to report on the Commonwealth's response to the disaster. The task force provided numerous specific recommendations for improvement of Commonwealth disaster response programs. At the writing of the *Commonwealth of Virginia Emergency Operations Plan Support Annex 3: Standard Hazard Mitigation Plan*: during summer, 2004, all of the recommendations of the task force had been reviewed and were in the process of implementation as recommended or with slight refinement or improvement. The report primarily addressed disaster response and recovery specific to Hurricane Isabel.



Released in December 2003, the report did not really address mitigation, which is acknowledged as a long-term effort. The Isabel After Action Report and the process used by the Commonwealth's Department of Emergency Management to improve disaster response will likely be a model for evaluation of program delivery to specific events and continued improvement of preparedness, response and recovery by local and state government. The recommendations and actions from the report are available to be downloaded from the Virginia Department of Emergency Management website:  
[http://165.176.249.147/library/Hurricane\\_Isabel\\_Assessment.pdf](http://165.176.249.147/library/Hurricane_Isabel_Assessment.pdf).



## 4.4 Objectives, Strategies & Projects

The following table provides a listing for each of the four goals its supporting objectives and the 48 strategies & projects ranked **critical** and **high**. The complete listing of all strategies and projects, organized by each goal, may be found in Appendix H. No local strategies are included at this time.

**Table 4-7**  
**Goals, Objectives and Strategies & Projects Ranked Critical and High**

APPENDIX H: MITIGATION PROJECTS – CRITICAL/HIGH						
GOAL 1: STRUCTURAL MITIGATION PROJECTS – Identify and implement physical projects that will directly reduce impacts from hazards						
#	PROJECT NAME/ STRATEGY	ACTION	AGENCIES INVOLVED	PROJECT COST	TIME SPAN	RANK
<b>Objective 1: Continue implementation of warning and detection systems to notify the Commonwealth of impending hazards</b>						
1.1.1	Evacuation Interstate Ramp Barrier Gates	Installation of fixed barriers at interstate ramps that can be manually operated to improve evacuations for needed hazards with limited preparation for mobilization and limited state resources.	VDOT	\$580,000	ASAP	Critical
1.1.2	HVAC Systems Protection of Capitol Complex Buildings	Study the feasibility and options to protect HVAC system on critical buildings on the Capitol Square Complex. Develop the design for system modifications at four of the highest risk buildings including Supreme Court, General Assembly and other select facilities.	Department of General Services	\$500,000	One Year	Critical
1.1.3	Real time flood warning system	Construct and instrument stream gages to provide real time flood stage and discharge information to at least 10 underserved priority flood prone communities.	US Geological Survey			High
<b>Objective 2: Elevate, retrofit and relocate existing structures and facilities in vulnerable locations</b>						
1.2.1	Evaluation of DEQ Buildings for Flooding	Evaluation of DEQ locations to determine if offices and monitoring stations are within 100 year flood zone.	DEQ	\$1,000	One Year	High



1.2.2	Window and Door Glass Protection	Install 8 mil film with wet glaze attachment on glass windows and doors at 36 State owned National Guard armories throughout the Commonwealth.	Department of Military Affairs	\$356,250	As funding avail.	High
1.2.3	Structural Mitigation of Repetitive Loss Structures	Integrate repetitive loss list and severe repetitive loss list structural targeting into local, regional and state mitigation planning and grant implementation property targeting	VDEM Hazard Mitigation Committee Local Government Project Sponsors	None	Ongoing	High
1.2.4	Structural Mitigation	Support implementation of structural mitigation of targeted hazard-prone properties i.e. repetitive flood properties (FEMA repetitive loss and severe repetitive loss lists) through sponsorship of FEMA HMGP, FMA, PDM, RFC and SRL grant programs	VDEM Hazard Mitigation Committee Local Government Project Sponsors	Varies due to HMGP, SRL and FMA allocations and competitiveness of PDM and RFC projects	HMGP as available; FMA and SRL annual allocation; PDM and RFC annual competitive	Critical
<b>Objective 4: Modify the geographic setting near structures to reduce exposure to hazards</b>						
1.4.1	Install Security Barriers	Install security barriers with automated access control/monitoring systems to protect the Capitol Square accesses and the facilities in Capitol Square.	Dept. of General Services & VDOT	\$1,000,000	As funding avail.	High
<b>Objective 5: Require emergency utility systems and redundant communication systems for functionally critical facilities</b>						
1.5.1	Electrical wiring for future emergency generator hook-up	Provide necessary electrical hook-up, wiring, and switches to allow readily accessible connections to emergency generators at 34 State owned National Guard armories throughout the Commonwealth.	Department of Military Affairs	\$204,000	As funding avail.	Critical
1.5.2	Emergency Power Systems for 9 Regional Agency	Provide emergency back-up power at 9 of the agencies largest cooler facilities that can be utilized for refrigeration functions associated with the emergency response needs of the	Virginia Department of Forestry	\$225,000	As funding avail.	Critical





	Cooler Facilities	Commonwealth. The cooler facilities are already in place and include drive in type facilities for the storage and distribution of tree seedlings during early spring. These sites are generally available for most of the summer and fall seasons, and would allow for multiple tractor-trailer sized cold storage facilities for critical food, health and ice needs.				
1.5.3	Supplemental Power for Government Data Centers	Establish a real-time off-site data center for DGS survey of mission critical applications and communications. The center would house a 3 terabyte mass storage device, 2 database servers, 2 email servers, 5 application servers, 2 domain servers, 5 Citrix servers, software and telecommunications circuits required to support real-time fail over capabilities for DGS applications.	Department of General Services	\$500,000	One Year	Critical
1.5.4	Emergency hardware and software procurement	Procurement of hardware and software as needed to conduct business in the event of an emergency or disaster.	DMHMRSAS & VITA	\$500,000	As funding avail.	High
1.5.5	Provide uninterruptible power source (UPS) for DCLS	Install an UPS system in the Archive Room located at the Div of Consolidated Laboratory Services and re-feed bus way A from the new UPS system.	Department of General Services	\$435,000	As funding avail.	High



<b>GOAL 2: POLICY, PLANNING &amp; FUNDING PROJECTS</b>						
<b>Incorporate mitigation concepts and objectives into existing and future policies, plans, regulations and laws in the Commonwealth</b>						
#	PROJECT NAME/ STRATEGY	ACTION	AGENCIES INVOLVED	PROJECT COST	TIME SPAN	RANK
<b>Objective 1: Identify current policies, plans, regulations and laws that require or should require mitigation intervention</b>						
2.1.1	Development of Statewide Hosting Program	Developing a statewide hosting plan by identifying a number of specific facilities that can be designated as "all hazard" reception shelter centers t/o the Commonwealth near major traveled routes where citizens can seek shelter and/or get information on the nearest shelter facility. These facilities can be clearly identified in statewide plans & established as a uniform basis for safe evacuation locations depending upon the hazard.	Virginia Department of Emergency Management			Critical
2.1.2	Sensitive Data Protection	Identify source data (hazard or community/state facility data) that may need FOIA protection, and establish standards, criteria, and regulatory protections for use of and access to these data.	VDEM		3 Years	Critical
2.1.3	Continuity of Operations Planning	Develop a Continuity of Operations Plan (COOP) that establishes procedures and responsibility for resumption of Agency mission critical functions after occurrence of a disaster or disruptive event.	VA Dept. of Agriculture & Consumer Servs.	\$2,000	< 1 Year	High
2.1.4	Hazard Mitigation Planning	Perform a hazard/vulnerability assessment of buildings and infrastructure on the Radford University campus	Radford University	\$100,000	As funding avail.	High
2.1.5	Hazard Mitigation Planning	Perform a hazard/vulnerability assessment of buildings and infrastructure on the Virginia State University campus.	Virginia State University	\$100,000	As funding avail.	High
2.1.6	Hazard Mitigation Planning	Perform a hazard/vulnerability assessment of buildings and infrastructure on the Norfolk State University Campus	Norfolk State University	\$100,000	As funding avail.	High
2.1.6	Jamestown Settlement Electrical Surge Protection	Provide electrical surge protection to computers, sensitive audio/visual equipment & interactive exhibits. Protection would be extended to the Education, Visitor Services and Theater/Special Exhibitions Wings	Jamestown- Yorktown Foundation	\$172,500	As funding avail.	High
2.1.7	Jamestown Settlement Emergency	Upgrade generators for the following buildings: Education Wing from 20KW to 300 KW Natural Gas; Visitor Services	Jamestown- Yorktown	\$562,500	As funding avail.	High



	Generators	Wing from 50KW to 300 KW Natural Gas; and relocate existing 50KW generator from Visitor Services Wing to the Maintenance Building.	Foundation			
2.1.8	Incorporate repetitive loss property strategies into local, regional and state hazard mitigation plans	Target repetitive loss property mitigation through development of mitigation strategies for repetitive loss and severe repetitive loss properties to reduce damages from flooding and maintain local government eligibility for FMA, RCF and SRL grant mitigation programs. Encourage targeting of repetitive and severe repetitive loss properties for mitigation funding through HMGP and PDM programs.	VDEM Hazard Mitigation Committee Local Government Project Sponsors	Varies due to HMGP, SRL and FMA allocations and competitiveness of PDM and RFC projects	HMGP as available; FMA and SRL annual allocation; PDM and RFC annual competitive	High
<b>Objective 3: Incorporate mitigation planning concepts into COOP and recovery plans for state agencies</b>						
2.3.2	State Agency COOP Implementation	Develop processes and procedures for the prioritization and management of the concurrent implementation of multiple agency COOPs due to a regional disaster and/or emergency.	VDEM, All State Agencies		Ongoing	Critical
2.3.1	Continuity of Operations Planning	Develop a Continuity of Operations Plan (COOP) that established procedures and responsibility for resumption of Agency mission critical functions after occurrence of a disaster or disruptive event.	VA Dept. of Agriculture & Consumer Servs.	\$2,000	< 1 Year	Critical
2.3.2	Continuity of Operations Planning	Develop a Continuity of Operations Plan (COOP) that established procedures and responsibility for resumption of Agency mission critical functions after occurrence of a disaster or disruptive event.	VA Dept. of Agriculture & Consumer Servs.	\$8,000	< 1 Year	Critical
2.3.3	Continuity of Operations Planning	Develop a Continuity of Operations Plan (COOP) that establishes procedures and responsibility for resumption of Agency mission critical functions after occurrence of a disaster or disruptive event.	Agriculture & Consumer Services	\$2,000	< 1 Year	High
2.3.4	Continuity of Operations Planning	Develop a Continuity of Operations Plan (COOP) that establishes procedures and responsibility for resumption of Agency mission critical functions after occurrence of a disaster or disruptive event.	Agriculture & Consumer Services	\$2,000	< 1 Year	High

2.3.5	Continuity of Operations Planning	Develop a Continuity of Operations Plan (COOP) that establishes procedures and responsibility for resumption of Agency mission critical functions after occurrence of a disaster or disruptive event.	Agriculture & Consumer Services	\$2,000	< 1 Year	High
2.3.6	Continuity of Operations Planning	Develop a Continuity of Operations Plan (COOP) that establishes procedures and responsibility for resumption of Agency mission critical functions after occurrence of a disaster or disruptive event.	Agriculture & Consumer Services	\$2,000	< 1 Year	High
2.3.7	Continuity of Operations Planning	Develop a Continuity of Operations Plan (COOP) that establishes procedures and responsibility for resumption of Agency mission critical functions after occurrence of a disaster or disruptive event.	VA Dept. of Agriculture & Consumer Servs.	\$2,000	< 1 Year	High
2.3.8	Continuity of Operations Planning	Develop a Continuity of Operations Plan (COOP) that establishes procedures and responsibility for resumption of Agency mission critical functions after occurrence of a disaster or disruptive event.	Agriculture & Consumer Services	\$2,000	< 1 Year	High
2.3.9	Continuity of Operations Planning	Develop a Continuity of Operations Plan (COOP) that establishes procedures and responsibility for resumption of Agency mission critical functions after occurrence of a disaster or disruptive event.	Agriculture & Consumer Services	\$2,000	< 1 Year	High
2.3.10	Continuity of Operations Planning	Develop a Continuity of Operations Plan (COOP) that establishes procedures and responsibility for resumption of Agency mission critical functions after occurrence of a disaster or disruptive event.	Agriculture & Consumer Services	\$2,000	< 1 Year	High
2.3.11	Incorporation of Continuity of Operations Planning	Incorporation of relevant state agency Continuity of Operations Plans (COOP) information into the 2007 Hazards Mitigation Plan.	VDEM & PPF subcommittee		2007	High
<b>Objective 5: Incorporate mitigation planning concepts into state legislation and zoning</b>						
2.5.1	Encourage use of Hazard Assessment data from this EOP to update other state plans	Work with Governor's office and various state Secretary's to incorporate the results of this State Hazard Mitigation Plan into state agency COOPs, other EOP assessments, etc., as needed.	VDEM		5 Years	Critical

<b>Objective 6: Promote coordination between federal, state and local organizations</b>						
2.6.1	Develop a Family of Public Health Emergency Preparedness & Response Plans	Develop a family of All Hazard, Public Health Emergency Preparedness and Response Plans.	VDOH	\$57,000,000	Annually updated Based on Grant cycles	Critical
2.6.2	Legislative support to incorporate hazard mitigation planning into local comprehensive planning process	Work with Governor's office, state Secretary's, and General Assembly to incorporate the hazard mitigation planning process into the local comprehensive planning process, thus working to solidify these principles and methods into planning at the local level.	VDEM, Governor's Office and General Assembly		5 Years	Critical



<b>GOAL 3: INFORMATION AND DATA DEVELOPMENT</b>						
<b>Build Capacity with information and data development to refine hazard identification and assessment, mitigation targeting and funding identification</b>						
#	PROJECT NAME/ STRATEGY	ACTION	AGENCIES INVOLVED	PROJECT COST	TIME SPAN	RANK
<b>Objective 1: Identify data needs and sources</b>						
3.1.1	Climate and Natural Hazard Information Collection	Assist VDEM, in conjunction with Virginia State Climatologist's office, in obtaining comprehensive, high quality and most appropriate data for natural hazards that impact Virginia. Sources will include the NCDC, regional climate centers and NWS offices serving Virginia	NOAA & National Weather Service			Critical
3.1.2	Establish and Maintain the Virginia Hazard Mitigation Database	Establish, develop and maintain a system by which Virginia-specific hazards data can be consolidated and made available to all localities and agencies for use. ID, compile, and map the general Virginia "inventory" data needed to better assess the Commonwealth's general vulnerability to all hazards. This would include demographic, business/industry, agricultural, and natural environment data. Discrete weather data would include data on Winter Storms, Hail, Extreme Temperature, Drought, Hurricanes, Tornadoes, Lightning, Land Subsidence, Karst regions, Flooding and Earthquakes. Database will also be used to consolidate local data and results into state plan once available. Local entities information and data would be incorporated into the database. Share repetitive loss and severe repetitive loss data with local and regional governments for incorporation into repetitive loss property mitigation planning and targeting for grant support through HMGP, FMA, PDM, RFC and SRL FEMA grant programs. Maintain confidentiality of datasets within parameters of privacy act requirements.	VDEM & NOAA, NWS, CGIT, VGIN/VITA FEMA (repetitive loss lists)	\$100,000 to \$300,000	Ongoing	Critical
3.1.3	Mitigation: Security of Data and Assets	Critical Organizational exposures include protection of data (financial documents) and of data (financial documents) and protection of other assets (personnel & fixed assets).	Virginia Housing Development Authority	\$300,000	By 4 <sup>th</sup> quarter 2004	Critical
3.1.4	Real time flood	Develop high-resolution flood plain maps and hydrologic models to	US Geological			Critical



	inundation mapping program	produce real time flood inundation maps for high priority locations within Virginia.	Survey			
3.1.5	Comprehensive Dam Information Database Development	Identify and convene committee to identify, coordinate, and collect relevant data for use in a single comprehensive database of ALL dams located in or affecting the Commonwealth of Virginia.	VDEM & DCR		2 Years	High
<b>Objective 2: Identify data analysis methods</b>						
3.2.1	Human-caused hazards assessment methods development	Identify and implement at the state and local levels validated assessment methods for human-caused hazards.	VDEM		3 Years	Critical
3.2.2	Update 100 and 500 year flood frequency statistics	Update 100 and 500 year flood frequency statistics using most current information to estimate the magnitude and frequency of peak flood discharges.	US Geological Survey			High
<b>Objective 5: Develop a common system for information storage</b>						
3.5.1	Incorporation of Handheld GIS-based Data Collection into Emergency Response	Acquire and utilize handheld field data recorders to facilitate emergency response information collection and distribution. This project will expand existing agency GIS capabilities to provide a much more efficient method for recording incident information in support of assessment and planning roles. This project will provide county level VDOF personnel with handheld data collectors and the training to will allow for real-time data collection in a digital format to expedite local damage assessments and to provide GIS based information that is critical for incident response. This expands DOF's existing state of the art GIS capabilities making it more available to support the Commonwealth's emergency response needs.	VDOF, VDEM & VITA	\$395,000	As funding avail.	Critical
3.5.2	Comprehensive State Facility Inventory Database	Enhance and consolidate the existing state facility databases into a single database. Issues to address would be types of facilities to include and the data to collect on each to meet the needs of the respective parties to this effort. Develop and implement the database, including implementation of strategies to have state agencies be responsible for maintaining their own data.	VDEM, CGIT & DGS		3 Years	High

<b>GOAL 4: EDUCATION &amp; OUTREACH ACTIVITIES - Through education and training, increase awareness of hazards and potential mitigation strategies</b>						
#	PROJECT NAME/ STRATEGY	ACTION	AGENCIES INVOLVED	PROJECT COST	TIME SPAN	RANK
<b>Objective 2: Identify target audiences in the general public and state agencies for hazards awareness education and training</b>						
4.2.1	Enhanced Statewide Hurricane Public Education Program	Increase the general public's knowledge of disaster preparedness with emphasis on hurricane through an enhanced public education program.	VDEM			Critical
4.2.2	Development of a Business Disaster Guide	Development of a business disaster guide to help business mitigate and prepare for disasters.	VDEM, Citizens Corps & Chamber of Commerce	\$25,000		High
4.2.3	Local training on Hazard Mitigation Planning Process	Establish a consistent program for localities to learn the hazard mitigation planning process using both FEMA and VDEM standards.	VDEM, FEMA III & Commonwealth Localities		1 Year	High
4.2.4	Mitigation Success Stories Development	Develop a simple method to identify and record the ongoing mitigation success stories from across the Commonwealth. Identify the critical information/data needed to show the full benefits of these actions over time.	VDEM		2 Years	High
<b>Objective 3: Identify and develop resources to provide training and education to targeted audiences</b>						
4.3.1	Virginia Mitigation Strategies Encyclopedia	Develop a comprehensive and evolving toolkit of potential mitigation strategies that the State and localities may use to address the various hazards that affect them. Include with this toolkit a current assessment of which strategies are currently allowed under Virginia Law.	VDEM, VCU & UVA	\$20,000		Critical
4.3.2	Encourage NFIP participation	Develop and implement an education program for localities and citizens regarding the NFIP program and flood insurance generally.	VDEM & VDCR		3-6 Years	High
4.3.3	Encourage local government sponsorship of grant projects to mitigate repetitive loss	Target repetitive loss property communities with direct mailings, workshops, web-based guidance and project applications and technical support to maximize use of FEMA grant programs to mitigate targeted repetitive loss and severe repetitive loss list properties. Maximize outreach through technical workshops.	VDEM	None	Ongoing	Critical

	properties					
<b>Objective 4: Provide hazard awareness, preparedness and mitigation information through various communication channels</b>						
4.4.1	Education Insurance Industry re: NDIP	Develop, require and implement better training and/or continuing education programs for insurance agents involved in writing and administering NFIP policies.	DCR & State Corporation Commission	SCC	3 Years	Critical



## 4.5 Funding Capabilities

There is never enough funding to adequately provide mitigation programs that will completely address properties at risk. It is hoped that as awareness of hazard mitigation increases, due in part to implementation of this plan, funding can be increased through creative use of existing programs as well as incorporation of mitigation into other non-traditional hazard mitigation programs. It should be noted that in the funding column within the program capacity analysis provided in Table 4-3, Table 4-4, Table 4-5 and Table 4-6, a check [✓] only means that funding is possible within the stated program. The check does not indicate that funding is adequate, readily available or has ever been applied to Commonwealth of Virginia Disaster Response, Recovery or Mitigation Programs.

### 4.5.1 Traditional Funding Programs

Following development of the Standard Plan, an outreach program was initiated at VDEM to increase participation in traditional FEMA-Commonwealth mitigation grant programs. Development of the mitigation section of the grant page of the website, discussed in Chapter 7, Enhanced Plan is one aspect of this effort. Project Development Workshops were presented four times during 2005 after creation of a 2.5 day workshop format where a full two day benefit cost-analysis course is presented followed by a half day session highlighting project eligibility, development and the application process. These workshops were presented once in 2006 and twice during 2007 and included the traditional two-day BCA training delivered through FEMA HMTAP or VDEM procured contractors and VDEM staff. This was followed by a half-day VDEM workshop on competitive mitigation project development. Direct mailings, through traditional mail and using email distribution lists has also kept local governments and other interested parties up to date on grant opportunities.

During 2006, the Commonwealth's Office of Commonwealth Preparedness, in cooperation with the Governor's Office, initiated an effort to capture all grant opportunities available in the Commonwealth. Once this system is established, matching projects to eligible funding sources should be streamlined, increasing the opportunity for strategy implementation.

#### A. FEMA Hazard Mitigation Grant Program [HMGP]

This post-disaster program is currently available to the Commonwealth of Virginia at the 20% funding level following approval on March 14, 2007 of the Commonwealth's Enhanced Hazard Mitigation Plan. In other words, funding representative of 20% of the total cost of eligible federal and state disaster recovery programs including individual assistance, public assistance, other needs assistance and special mission assignments becomes available to the Commonwealth for hazard mitigation projects that support structural mitigation and demolition/acquisition projects, limited hazard mitigation planning projects and special initiative projects. Per federal requirements outlined in CFR 44, at least 88% of the total monies available in HMGP are allotted to structural mitigation and demolition-acquisition projects that fully meet state program priorities. Further, these projects must be deemed eligible by FEMA Region III and meet all Benefit-Cost Analysis requirements, environmental and historical program regulations. In addition, all nuances and requirements of HMGP regarding property ownership and use of lands purchased by local governments must be met.



Since the 2003 reduction of the program to 7.5% from its former level of 15%, it has become difficult to use HMGP from federal declared disasters that impact small areas or do not generate extensive federal economic assistance due to the type of damages sustained or limited public assistance.

Therefore, to maximize available HMGP funds, the Commonwealth sought "Enhanced Plan" status with the re-submission of this plan during 2005. States with enhanced plan status receive HMGP at a higher funding level of eligible federal disaster assistance costs. This funding level will nearly triple current funding levels, which will greatly increase funding of eligible structural mitigation projects. The Commonwealth Mitigation Program has initiated mitigation capacity building through recruitment of three hazard mitigation grant project specialists to manage HMGP projects, initiation of in-house NEMIS data entry capability and stronger understanding of the Benefit-Cost Analysis module. Work to formally elevate the plan to an Enhanced Plan was initiated in winter, 2005 with the plan submitted August 26, 2005. It was resubmitted in June, 2006 following FEMA review and is under revision for final submission Fall, 2006.

**B. Commonwealth Sum-Sufficient Match, HMGP**

During the past decade, the FEMA HMGP program allows federal funding of up to 75%. The remaining 25% local match must be provided by non-federal sources. During the past few years, the Commonwealth has provided up to 20% of the project costs, resulting in local match requirements of only 5%. The state's support of the program has made HMGP available to many local governments who otherwise could not provide the required 25% local match.

**C. FEMA Pre-Disaster Mitigation Program [PDM]**

This program was first offered as a nationally competitive program for structural mitigation projects during summer, 2003. The Commonwealth, due to staff constraints and Hurricane Isabel, did not participate in the 2003 program. The guidance for the combined FY 2004 and 2005 PDM program was released in late 2004. Virginia submitted two planning projects. The Commonwealth only had two localities eligible to participate in structural mitigation projects. Their project proposals were either withdrawn or did not achieve a benefit-cost ratio greater than 1.0 (as required by the program). It is anticipated that Commonwealth local governments will wish to participate in the program once local §322 plans are approved. The Commonwealth Mitigation Program continues to sponsor benefit cost and project application training to better prepare applicants. It is anticipated that over time, PDM will be a major funding source for mitigation projects and strategies outlined in the 2007 plan.

**D. FEMA Flood Mitigation Assistance Program [FMA]**

FMA is available to local governments with an approved Flood Mitigation Plan or local section 322 all-hazards plan. The program targets NFIP insured properties with repetitive damages. These program requirements, along with the scarcity of local governments with approved FMA and §322 plans, make full use of the Commonwealth's annual allotment of FMA monies difficult. The state mitigation program will continue to promote FMA for use in specific communities where property owners with repetitive losses that are current NFIP policyholders are interested in participation.

**E. Virginia Flood Prevention and Protection Assistance Fund**

This program resides within the Department of Conservation & Recreation's Division of Dam Safety and Floodplain Management. The fund is generated by an annual 1% surcharge on every NFIP policy in the Commonwealth. The program can assist development of flood control projects, as well as support



traditional residential, commercial or public structural flood mitigation projects. With more than 80,000 NFIP policies in the Commonwealth, the fund is generating significant funds but has never been made available to agencies, organizations and local governments. It is anticipated that the program will be developed and offered as a competitive funding source, which might support flood mitigation projects outlined in the state plan or local §322 plans.

**F. Commonwealth of Virginia General Fund**

Many of the structural mitigation projects detailed in this plan and envisioned by Steering Committee members can be incorporated into capital improvement budgets that support renovation of existing structures or initiate new construction. Facilities managers have been active participants in the planning process and will serve an integral role in seeking non-traditional mitigation funding to support structural mitigation projects.

**G. Homeland Security Grants**

Several Department of Homeland Security grant programs have been created during the past several years to assist state and local governments with structural “hardening” and other security projects. As hazard mitigation planning expands to include human caused hazards, these funding sources will become critical in plan implementation.

**H. Community Development and Block Grants [CDGB]**

Administered by the Commonwealth’s Department of Housing and Community Development, this program provides housing and commercial revitalization to many Commonwealth communities. CDGB has been effectively used in comprehensive recovery from major disasters such as Hurricanes Fran, Floyd and Isabel as well as severe storm and flooding events. CDBG will continue to be a critical funding source for housing mitigation programs.

**I. FEMA Repetitive Flood Claims Program**

This program, new in 2006, will reduce flood damages to properties that have had at least one or more claim payments under the National Flood Insurance Program (NFIP) (42 U.S.C. 4030). **Eligible mitigation activities** include acquisition of properties, and either demolition or relocation of flood-prone structures, where the property is deed restricted for open space uses in perpetuity. The Commonwealth procured more than \$1.1 M in funding to acquire and demolish two repetitive loss properties and one severe repetitive loss property in the City of Chesapeake during FY2007. An application to acquire and demolish two additional residential properties in Chesapeake was forwarded to the national applicant pool in eGRANTS on January 30, 2008.

**J. FEMA Severe Repetitive Loss Program**

Guidance for this program was released on January 14, 2008. FEMA provided training to the Commonwealth in December, 2007. Due to the uniqueness of this program, VDEM requested training for its potential local government project sponsors from FEMA Region III and HQ. This pilot training is scheduled for February 20, 2008 and will focus on the application process and the negotiations with the property owner to complete the mitigation project approval process. To market the program, VDEM directly mailed the county administrator, town manager or city manager of each of the thirty severe repetitive loss properties a letter inviting them to participate in the training. In addition, the letter provided the location list of the properties and requested return of digital photographs of the properties so that VDEM can begin to characterize the mitigation possibilities for each property as well as potential environmental, historic, or engineering issues that could be relevant should the property owners wish to participate in





the program. In addition, the program has been marketed to local contacts in the targeted local governments, and in VDEM email updates. Copies of the marketing materials, training workshop agenda, and participants are provided in Appendix 3 of the Standard Plan.

